CLAIMS

What is claimed is:

1   1.   A method of streaming a page of data, the method comprising:

2   allocating at least one object corresponding to the page of data; and

3   executing the at least one object, wherein executing comprises,

4   executing a proxy if the at least one object is a proxy,

5   executing a component if the at least one object is a component, and

6   executing a container if the at least one object is a container.

1   2.   The method of claim 1 further comprising recursively performing allocating and

2   executing the at least one object to process at least one sub-object contained within

3   the at least one object.

1   3.   The method of claim 1 further comprising:

2   allocating an occurrence of an associated base agent corresponding to the page of

3   data.

1   4.   The method of claim 3 wherein executing a component further comprises:

2   calculating output data for the occurrence of the component; and

3   streaming out the data to the associated base agent.

1   5.   The method of claim 4 wherein streaming further comprises calling a stream result

2   method of the associated base agent.

1   6.   The method of claim 4 further comprising creating a reference to the associated

2   base agent within the component.

1   7.   The method of claim 2 wherein executing the container further comprising:

2   generating at least one container object from the container; and

3   executing the at least one container object, wherein executing comprises,

4   executing a proxy if the at least one container object is a proxy,

5   executing a component if the at least one container object is a component,

6   and

7   executing a container if the at least one container object is a container.

8   8.   The method of claim 7 further comprising recursively performing generating and

2   executing the at least one container object to process at least one container sub-object

3   contained within the at least one container object.

1   9.   The method of claim 2 wherein executing a proxy further comprises:

2   determining if a cache entry exists for the occurrence of the at least one object;

3   if a cache entry is not found,

4   allocating a new cache entry; and

5   streaming out a cache entry value.

1   10.   The method of claim 9 wherein determining further comprises:

2   matching cache criteria for the cache entry;

3   if the cache criteria does not match,

4   allocating an underlying object associated with the proxy, and

5   executing the underlying object; and

6   if the cache criteria matches,

7   constructing a cache key.

1   11. The method of claim 10 wherein constructing a cache key further comprises:

2   matching at least one input parameter against at least one cache criteria entry.

1   12.   The method of claim 9 wherein determining further comprises:

2   examining the cache using a cache key.

1   13.   The method of claim 9 wherein allocating a new cache entry further comprises:

2   creating a new cache entry;

3   allocating an occurrence of a caching base agent; and

4   executing the caching base agent.

1   14.   The method of claim 13 wherein creating the new cache entry further comprises:

2   creating a new key; and

3   reserving the new cache entry corresponding to the new key.

1   15. The method of claim 13 wherein executing the caching base agent further

2   comprises:

3   creating a buffer entry to capture output data;

4   allocating an underlying object associated with the proxy;

5   executing the underlying object to stream out the output data to the buffer entry,

6   wherein executing comprises,

7   executing a proxy if the at least one object is a proxy,

8   executing a component if the at least one object is a component, and

9   executing a container if the at least one object is a container; and

10   transferring the buffer entry to the new cache entry.

1   16. The method of claim 9 wherein determining further comprises:

2   determining if the cache entry is empty; and

3   streaming out an error message if the cache entry is empty.

1   17. The method of claim 1 wherein the at least one object comprises all components

2   within the page of data.

1   18. The method of claim 1 wherein the at least one object is an executable object.

1   19. The method of claim 1 wherein the at least one object is a component, a proxy, or a

2   container.

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1   20. A method of streaming a page of data, the method comprising:

2   (a) allocating an occurrence of at least one base agent associated with the page of

3   data;

4   (b) allocating an occurrence of a container associated with the at least one base

5   agent;

6   (c) generating at least one object from the occurrence of the container;

7   (d) executing the at least one object; and

8   (e) streaming output data of the at least one object to the base agent.

1   21. The method of claim 20 further comprising recursively performing (a) through (e)

2   to process at least one sub-object contained within the at least one object.

1   22. The method of claim 21 wherein the at least one object is a component, a proxy, or a

2   container.

1   23. The method of claim 21 wherein the sub-object is a component, a proxy, or a

2   container.

1   24. A system for streaming a page of data, the system comprising:

2   means for allocating at least one object corresponding to the page of data; and

3   means for executing the at least one object, wherein means for executing

4   comprises,

5   means for executing a proxy if the at least one object is a proxy,

6   means for executing a component if the at least one object is a component,

7   and

8   means for executing a container if the at least one object is a container.

1   25. A system for streaming a page of data, the system comprising:

2   means for allocating an occurrence of at least one base agent associated with the

3   page of data;

4   means for allocating an occurrence of a container associated with the at least one

5   base agent;

6   means for generating at least one object from the occurrence of the container;

7   means for executing the at least one object; and

8   means for streaming output data of the at least one object to the base agent.

1   26. An article of manufacture including one or more computer-readable media with

2   executable instructions therein, which, when executed by a processing device causes

3   the processing device to:

4   allocate at least one object corresponding to the page of data; and

5   execute the at least one object, wherein to execute comprises,

6   execute a proxy if the at least one object is a proxy,

7   execute a component if the at least one object is a component, and

8   execute a container if the at least one object is a container.

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1   27. An article of manufacture including one or more computer-readable media with

2   executable instructions therein, which, when executed by a processing device causes

3   the processing device to:

4   allocate an occurrence of at least one base agent associated with the page of data;

5   allocate an occurrence of a container associated with the at least one base agent;

6   generate at least one object from the occurrence of the container;

7   execute the at least one object; and

8   stream output data of the at least one object to the base agent.

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1   28.   A system for streaming a page of data, the system comprising:

2   a base agent processing unit to allocate at least one object corresponding to the

3   page of data;

4   an object processing unit to execute the at least one object if the at least one object

5   is a component or a container; and

6   a proxy processing unit to execute the at least one object if the at least one object

7   is a proxy.

1   29.   The system of claim 28 wherein the base agent processing unit allocates an

2   occurrence of an associated base agent corresponding to the page of data.

1   30.   The system of claim 29 wherein the object processing unit further calculates output

2   data for the component, and streams out the data to the associated base agent.

1   31.   The system of claim 30 wherein the object processing unit further calls a stream

2   result method of the associated base agent.

1   32.   The system of claim 30 wherein the object processing unit creates a reference to the

2   associated base agent within the component.

1   33.   The system of claim 29 wherein the object processing unit generates at least one

2   container object from the container, and executes the at least one container object,

3   wherein executing comprises.

1 34. The system of claim 33 wherein the object processing unit executes a proxy if the at

2   least one container object is a proxy, executes a component if the at least one

3   container object is a component, and executes a container if the at least one container

4   object is a container.

1 35. The system of claim 28 wherein the base agent processing unit further allocates an

2   occurrence of at least one associated base agent corresponding to the page of data.

1 36. The system of claim 35 wherein the proxy processing unit further determines if a

2   cache entry exists for the occurrence of the at least one object, allocates a new cache

3   entry if a cache entry is not present, and streams out a cache entry value.

1 37. The system of claim 36 wherein the proxy processing unit matches cache criteria for

2   the cache entry, allocates an underlying object associated with the proxy and

3   executes the underlying object if the cache criteria does not match, and constructs a

4   cache key if the cache criteria does match.

1 38. The system of claim 37 wherein the proxy processing unit further matches at least

2   one input parameter against at least one cache criteria entry.

1 39. The system of claim 36 wherein the proxy processing unit further examines the

2   cache using a cache key.

1 40. The system of claim 36 wherein the proxy processing unit further creates the new

2   cache entry in the cache, allocates an occurrence of a caching base agent, and

3   executes the caching base agent.

1 41. The system of claim 40 further comprising a caching agent processing unit to create

2   a buffer entry to capture output data, allocate an underlying object associated with

3   the proxy, execute the underlying object, and transfer the buffer entry to the new

4   cache entry.

1 42. The system of claim 41 wherein the caching agent processing unit executes a proxy

2   if the at least one object is a proxy, executes a component if the at least one object is a

3   component, and executes a container if the at least one object is a container.

1 43. The system of claim 36 wherein the proxy processing unit determines if the cache

2   entry is empty, and streams out an error message if the cache entry is empty.

1 44. The system of claim 28 wherein the at least one object comprises all components

2   within the page of data.

1 45. The system of claim 28 wherein the at least one object is an executable object.

1 46. The system of claim 28 wherein the at least one object is a component, a proxy, or a

2   container.

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1   47. A system for streaming a page of data, the system comprising:

2   a base agent processing unit to allocate an occurrence of at least one associated

3   base agent corresponding to the page of data, to allocate an occurrence of a

4   container associated with the associated base agent, and to generate at least

5   one object from the occurrence of the container; and

6   an object processing unit to calculate output data for the at least one object and to

7   stream out the output data.